

GOVERNMENT OF THE GOLD COAST.



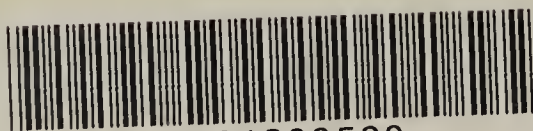
MEDICAL AND SANITARY REPORT

FOR THE YEAR 1902.

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Enclosure in Gold Coast, No. 240 of 1st July, 1903.

MEDICAL AND SANITARY REPORT

FOR THE YEAR 1902.

RETURN OF DISEASES AND DEATHS IN 1902 AT THE FOLLOWING INSTITUTIONS:—
Government Hospitals at Accra, Cape Coast, Elmina, Axim, and Kwitta.

DISEASES.				Remain- ing in Hospital at end of 1901.	Yearly Total.		Total Cases Treated.	Remain- ing in Hospital at end of 1902.	REMARKS.
					Admis- sions.	Deaths.			
GENERAL DISEASES.	Small-pox	...	...	22	222	33	244	18	
	Chicken-pox	...	...	—	10	—	10	—	
	Typhus	...	...	—	—	—	—	—
	Dengue	...	...	—	—	—	—	—
	Influenza	...	...	—	—	—	—	—
	Diphtheria	...	...	—	—	—	—	—
	Febricula	...	...	1	1	—	2	—	
	Enteric Fever	...	...	—	2	1	2	—	
	Cholera	...	...	—	—	—	—	—
	Dysentery	...	...	—	50	14	50	—	
	Yellow Fever	...	...	—	2	2	2	—	
	Plague	...	...	—	—	—	—	—
	Malarial Fever	...	...	—	—	—	—	—
	(a.) Inter- mittent	Quotidian	...	—	98	6	98	1	
		Tertian	...	—	—	—	—	—	
		Quartan	...	—	—	—	—	—	
		Irregular	...	—	—	—	—	—	
	Type undiagnosed			—	8	—	8	—	
	(b.) Remittent	...	...	2	202	7	204	2	
	(c.) Pernicious	...	...	1	8	4	9	—	
	Beriberi	...	...	2	13	5	15	—	
	Erysipelas	...	...	—	—	—	—	—
	Pyæmia	...	...	—	—	—	—	—
	Septicæmia	...	...	—	—	—	—	—
	Tetanus	...	...	—	5	3	5	—	
	Tubercle	...	...	—	—	—	—	—
	Leprosy	...	...	—	—	—	—	—
	(a.) Tubercular	...	...	—	3	3	3	—	
	(b.) Anæsthetic	...	...	—	4	—	4	—	
	Yaws	...	...	—	1	—	1	—	
	Syphilis	...	...	—	—	—	—	—
	(a.) Primary	...	...	1	6	—	7	2	
	(b.) Secondary	...	...	3	12	3	15	—	
	(c.) Inherited	...	...	—	4	—	4	—	
	Gonorrhœa	...	...	—	10	—	10	—	
	Hydrophobia	...	...	—	—	—	—	—
	Scurvy	...	...	—	—	—	—	—
	Alcoholism	...	...	—	5	—	5	—	
	Delirium Tremens	...	...	—	1	1	1	—	
	Rheumatism	...	...	—	31	—	31	—	
	Rheumatic Fever	...	...	—	2	—	2	—	
	Gout	...	...	—	1	—	1	—	
Carried forward ...				32	701	82	733	23	

RETURN OF DISEASES AND DEATHS—continued.

DISEASES.				Remain- ing in Hospital at end of 1901.	Yearly Total.		Total Cases Treated.	Remain- ing in Hospital at end of 1902.	REMARKS.	
					Admis- sions.	Deaths.				
GENERAL DISEASES.	Brought forward ...			32	701	82	733	23		
	{	New Growth, non-malignant		—	2	—	2	—		
		New Growth, malignant		—	—	—	—	—		
		Anæmia		—	6	—	6	—		
		Diabetes insipidus ...		—	—	—	—	—		
		Debility		2	12	1	14	1		
		Inanition... ..		—	1	—	1	—		
	DISEASES OF THE NERVOUS SYSTEM.	Diseases of the Nerves—								
		{	Sub-section 1.	Neuritis	—	4	1	4	—	
				Meningitis	—	3	—	3	—	
				Myelitis	—	—	—	—	—	
				Hydrocephalus	—	—	—	—	—	
				Encephalitis	—	1	—	1	—	
				Abscess of Brain	—	—	—	—	—	
				Congestion of Brain ...	—	3	1	3	—	
		Functional Nervous Disorders								
		{	Sub-section 2.	Apoplexy	—	—	—	—	—	
				Paralysis	—	—	—	—	—	
				Chorea	—	—	—	—	—	
				Epilepsy	—	2	1	2	—	
				Neuralgia	—	5	—	5	—	
				Hysteria	—	—	—	—	—	
		Mental Diseases—								
{		Sub-section 3.	Idiocy	1	1	—	2	—		
			Mania	—	—	—	—	—		
			Melancholia	—	—	—	—	—		
			Dementia	—	2	—	2	—		
			Delusional Insanity ...	—	2	—	2	—		
LOCAL DISEASES.		Diseases of the Eye—								
		Conjunctivitis		—	3	—	3	—		
	Oedema of Eye		—	1	—	1	—			
	Ophthalmia		—	1	—	1	—			
	Panophthalmitis		—	1	—	1	—			
	Iritis		—	3	—	3	—			
	Ulcer Cornea		—	1	—	1	—			
	Diseases of the Ear—									
	Otorrhœa		—	1	—	1	—			
	Foreign body in ear ...		—	1	—	1	—			
	Diseases of the Nose			—	—	—	—	—		
	Diseases of the Circulatory System									
	Heart Disease		—	12	5	12	—			
	Dropsy		—	3	1	3	—			
	Cardiac Debility		—	2	—	2	—			
	Mitral Regurgitation... ..		—	1	—	1	—			
	Diseases of the Respiratory Sys- tem—									
	Pneumonia		2	41	13	43	2			
	Phthisis		1	6	4	7	—			
	Bronchitis		—	40	2	40	—			
	Oedema Glottidis		—	1	—	1	—			
	Pleurisy		—	7	1	7	—			
	Laryngitis		—	1	—	1	—			
Carried forward ...				38	871	112	909	26		

RETURN OF DISEASES AND DEATHS—continued.

DISEASES.	Remain- ing in Hospital at end of 1901.	Yearly Total.		Total Cases Treated.	Remain- ing in Hospital at end of 1902.	REMARKS.
		Admis- sions.	Deaths.			
Brought forward ...	38	871	112	909	26	
Diseases of the Digestive System—						
Colic	—	9	—	9	—	
Constipation	—	16	—	16	2	
Diarrhœa	—	33	7	33	2	
Dyspepsia	—	9	—	9	—	
Enteritis	—	25	5	25	—	
Hernia... ..	—	2	—	2	—	
Fistula in Ano	—	3	—	3	—	
Gastritis	—	2	1	2	—	
Hepatitis	—	5	2	5	—	
Alveolar Abcess	—	1	—	1	—	
Peritonitis	—	1	1	1	—	
Tonsilitis	—	2	—	2	—	
Intestinal Obstruction	—	2	—	2	—	
Cirrhosis of Liver	—	3	1	3	—	
Diseases of the Lymphatic System						
Inflamed Glands	—	8	—	8	—	
Bubo	—	7	—	7	1	
Diseases of the Urinary System...						
Nephritis	—	3	—	3	1	
Bright's Disease	—	2	—	2	—	
Retention of Urine	—	1	—	1	—	
Albuminuria	—	3	—	3	—	
Diseases of the Generative System						
Male Organs—						
Orchitis	—	6	—	6	1	
Ruptured Urethra	—	1	1	1	—	
Urethral Stricture	—	9	—	9	—	
Chancre	—	4	—	4	—	
Elephantiasis of Scrotum	—	3	—	3	—	
Phimosis	—	1	—	1	—	
Prostrate Glands	—	2	—	2	1	
Inflamed Testis	—	1	—	1	—	
Gonorrhœa	—	5	—	5	—	
Female Organs—						
Ovaritis	—	1	—	1	—	
Vulva Ulceration	—	1	—	1	—	
Diseases of the Organs of Locomo- tion—						
Arthritis	—	2	—	2	—	
Periostitis Acute	—	2	—	2	—	
Synovitis	—	6	—	6	—	
Elephantiasis of Leg	—	1	—	1	—	
Diseases of the Cellular Tissue—						
Abscess	—	25	5	25	—	
Adenitis	—	1	—	1	—	
Whitlow	—	2	—	2	—	
Diseases of the Skin—						
Abrasion	—	1	—	1	—	
Burns	—	8	5	8	—	
Eczema	—	3	—	3	—	
Herpes Zoster... ..	—	1	1	1	—	
Ulcers	—	66	2	66	1	
Scabies... ..	—	10	—	10	—	
Erysipelas	—	1	—	1	—	
Ring Worm	—	9	—	9	—	
Boils	—	4	—	4	—	
Carried forward ...	38	1,184	143	1,222	35	

LOCAL DISEASES.

RETURN OF DISEASES AND DEATHS—*continued.*

DISEASES.	Remain- ing in Hospital at end of 1901.	Yearly Total.		Total Cases Treated.	Remain- ing in Hospital at end of 1902.	REMARKS.
		Admis- sions.	Deaths.			
Brought forward ...	38	1,184	143	1,222	35	
Injuries, General—						
Solar Insolation	—	2	1	2	2	
Gun-shot Wounds	—	4	—	4	1	
Injuries, Local—						
Compound Fracture of Tibia ...	—	2	—	2	1	
Contusion of Foot	—	5	—	5	—	
„ „ Ribs	—	1	—	1	—	
„ „ Spine	—	1	—	1	—	
Dislocation of left Arm	—	2	—	2	—	
Fracture Potts	—	1	—	1	—	
„ of Fibula and Tibia	—	7	—	7	1	
„ „ Skull	—	2	1	2	—	
„ „ Thigh	—	5	—	5	1	
„ „ Femur	—	1	1	1	—	
Injury of Abdomen	—	3	2	3	—	
Wound of Cheek	—	8	—	8	—	
„ „ Foot	—	19	—	19	—	
„ „ Hand	—	1	—	1	—	
„ „ Head	—	1	—	1	—	
„ „ „ and Face	—	7	—	7	—	
Shark Bite	—	1	—	1	—	
Surgical Operations—						
Circumcision	—	1	—	1	—	
Ainhum, little Toe, removal of ...	—	1	—	1	—	
Ingrowing Toe Nail, removal of ...	—	2	—	2	—	
Myofibroma large, removal of ...	—	2	—	2	—	
Paraphimosis	—	1	—	1	—	
Hydrocele, Tapped	—	1	—	1	—	
Removal of Tumour in Jaw	—	1	—	1	—	
Dilation of Urethral Stricture ...	—	1	—	1	—	
Malformations	—	—	—	—	—	
Poisons—						
Septic Wound	—	2	2	2	—	
Turpentine Poison	—	2	—	2	—	
Parasites—						
Guinea Worm	1	36	—	37	1	
Filaria Medinensis	—	4	—	4	—	
Total	39	1,311	150	1,350	42	

ACCRA.

METEOROLOGICAL RETURN FOR THE YEAR 1902.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
January... ..	119.29	71.09	88.80	70.96	17.90	79.88	...	91.96	...	...
February	140.10	72.14	87.46	70.78	16.67	79.12	6.21	76.72	...	...
March	140.03	73.29	89.22	73.51	15.70	81.36	.19	86.03	...	...
April	139.46	72.90	89.56	72.26	17.30	80.91	4.88	88.00	...	...
May	143.12	72.48	86.35	73.48	12.87	79.91	6.08	77.93	...	...
June	135.33	68.50	82.90	72.10	10.80	77.50	11.88	85.33	...	...
July	138.61	66.70	80.09	67.48	12.61	73.78	.20	82.67	...	...
August	140.00	64.22	79.64	65.38	14.25	72.51	.33	79.51	...	...
September	145.00	65.10	82.53	68.83	13.73	75.68	.34	76.73	...	...
October	145.80	65.41	84.35	69.12	12.83	76.73	.25	74.41	...	...
November	144.63	66.80	85.96	64.90	19.03	75.43	1.79	74.30	...	...
December	134.41	65.09	87.41	63.93	22.90	75.67	...	73.03	...	...
Totals	1665.78	823.72	1024.27	832.73	186.59	928.48	32.15	966.62	...		
Mean	138.81	68.64	85.35	69.39	15.54	77.37	2.67	80.55	...		

ABURI.

METEOROLOGICAL RETURN FOR THE YEAR 1902.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
January	137.32	20.48	82.29	16.90	4.19	49.54	.30	88.48	...	...
February	136.85	71.71	81.50	65.32	16.17	73.41	5.03	83.85	...	...
March	145.77	71.48	81.12	68.22	12.58	74.67	3.82	87.96	...	...
April	144.53	70.40	81.36	68.26	13.10	74.81	7.08	88.11	...	...
May	147.03	70.68	79.93	68.67	11.25	74.30	3.27	88.80	...	...
June	141.96	70.93	75.70	67.63	8.06	71.66	7.09	92.06	...	...
July	125.12	66.96	73.54	64.35	8.87	68.94	2.09	91.43	...	...
August	134.45	67.74	74.48	61.41	13.06	67.94	.93	92.12	...	...
September	140.30	68.20	77.76	64.90	12.86	71.33	.73	87.48	...	...
October	133.48	69.19	79.22	64.58	14.64	72.40	7.16	88.75	...	...
November	122.23	71.50	81.46	67.30	14.23	74.38	2.16	90.55	...	...
December	120.58	69.67	81.03	65.70	15.32	73.31	.74	84.87	...	...
Totals	1629.62	788.94	949.39	743.24	144.33	846.67	40.31	1064.46	...	...
Mean	135.80	65.74	79.11	61.93	12.02	70.55	3.35	88.70	...	...

CAPE COAST.
METEOROLOGICAL RETURN FOR THE YEAR 1902.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	143.58	92.41	88.83	75.51	13.29	82.17	...	84.19	...	...
February ...	134.78	78.78	82.96	72.50	10.60	77.73	5.52	8.71	...	...
March ...	138.35	70.70	80.87	70.35	10.51	75.61	1.15	84.41	...	...
April ...	138.78	59.60	86.00	75.16	11.96	80.54	4.25	81.93	...	...
May ...	141.32	75.41	86.54	76.19	1.35	81.36	8.95	81.45	...	...
June ...	137.70	74.96	83.96	73.46	10.46	78.71	23.06	80.02	...	...
July ...	153.38	74.48	82.67	72.96	9.70	77.81	3.37	85.41	...	...
August ...	133.93	70.67	81.00	70.00	11.00	75.50	1.12	83.32	...	...
September ...	136.43	56.70	82.00	71.40	10.60	76.70	.34	83.40	...	...
October ...	140.00	61.90	85.06	73.74	11.29	79.40	.60	79.32	...	...
November ...	137.66	73.40	88.06	75.03	13.36	81.54	.63	80.10	...	...
December ...	141.96	2.25	85.74	74.25	11.41	79.99	...	83.64	...	...
Totals ...	1677.87	791.26	1013.69	880.55	125.53	947.10	48.99	915.90	...	...
Mean ...	139.82	65.93	84.47	73.37	10.46	78.92	4.08	76.32	...	...

AXIM.
METEOROLOGICAL RETURN FOR THE YEAR 1902.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	...	71.32	88.19	75.93	13.03	82.06	.35	79.80	...	...
February ...	...	69.27	87.21	76.14	11.00	81.67	6.30	83.15	...	...
March ...	...	70.48	88.61	77.67	11.29	83.14	2.00	83.54	...	...
April ...	...	...	...	...	...	...	...	...	...	...
May ...	...	...	...	...	...	...	...	...	...	...
June ...	80.23	62.50	76.13	66.86	9.26	71.49	31.74	76.83	...	...
July ...	...	71.00	...	74.33	...	...	5.52	86.45	...	...
August ...	94.10	67.67	82.74	71.64	11.12	77.19	4.04	87.61	...	...
September ...	...	70.20	84.80	73.63	11.50	79.21	.89	85.16	...	...
October ..	...	66.80	83.41	74.29	10.74	78.85	9.19	52.41	...	...
November ...	...	70.40	88.80	75.13	13.66	81.86	5.70	83.70	...	...
December ...	20.22	70.96	88.51	73.76	15.12	81.13	1.49	78.09	...	...
Totals ...	194.55	690.60	768.40	739.43	106.72	716.60	67.22	796.74	...	...
Mean ...	64.85	69.06	85.37	73.94	11.85	79.62	5.60	79.67	...	...

KWITTA.

METEOROLOGICAL RETURN FOR THE YEAR 1902.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	135.09	71.61	88.45	74.67	13.22	81.56	...	71.22	...	...
February ...	133.82	74.82	87.10	77.00	10.16	82.5	0.69	87.50	...	...
March ...	143.87	75.29	90.12	78.22	12.22	84.17	1.51	76.54	...	...
April ...	...	...	...	...	...	...	...	...	...	...
May ...	146.54	74.67	90.74	78.25	12.48	84.49	1.93	79.51	...	...
June ...	142.23	75.90	89.50	77.95	11.53	83.73	12.45	82.86	...	...
July ...	141.70	72.70	85.90	74.00	11.90	79.95	0.30	82.24	...	...
August ...	139.19	72.00	84.64	74.22	13.06	79.43	2.93	92.12	...	...
September ...	143.70	70.30	84.60	74.56	10.03	79.58	0.05	75.03	...	...
October ...	148.70	72.67	88.32	75.80	12.51	82.06	0.32	76.56	...	...
November ...	154.73	76.16	85.43	74.36	11.06	79.89	...	79.51	...	...
December ...	141.35	73.35	86.58	74.48	12.09	80.53	...	78.22	...	...
Totals ...	1570.92	809.47	960.78	833.52	130.26	897.44	20.18	891.31	...	...
Mean ...	142.81	73.58	87.34	75.77	11.84	81.58	1.68	81.02	...	...

KUMASI.

METEOROLOGICAL RETURN FOR THE YEAR 1902.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
	Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	148.51	...	85.22	71.29	13.93	78.25	...	88.32	...	...
February ...	138.82	...	86.71	76.03	10.67	81.37	4.30	78.28	...	...
March ...	145.25	...	87.83	76.17	11.61	82.00	2.28	81.90	...	...
April ...	142.20	...	84.60	71.93	12.66	78.26	2.91	91.63	...	...
May ...	143.35	...	85.00	75.90	9.29	80.45	...	82.80	...	...
June ...	...	...	86.90	76.16	10.73	81.53	...	76.06	...	...
July ...	...	...	79.16	69.87	6.06	74.51	4.48	85.06	...	...
August ...	...	...	80.64	70.58	10.03	75.61	.90	...	...	...
September ...	...	...	80.64	71.00	9.46	75.73	8.16	85.16	...	...
October ...	...	...	82.09	71.22	11.25	76.65	8.21	83.19	...	...
November ...	26.20	62.03	84.63	71.96	12.66	78.29	1.93	74.69	...	...
December ...	134.12	59.61	82.64	66.93	15.38	74.78	1.68	71.83	...	...
Totals ...	878.45	127.64	1005.88	869.04	133.73	937.43	34.85	898.92	...	...
Mean ...	125.49	63.82	83.82	72.42	11.14	78.12	2.90	81.72	...	...

GAMBAGA.

METEOROLOGICAL RETURN FOR THE YEAR 1902.

MONTH.		TEMPERATURE.					RAINFALL.		WINDS.		REMARKS.	
		Solar Maximum.	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.		Average Force.
January	...	150.96	...	90.35	70.00	20.35	80.17	...	43.93	...	...
February	...	158.39	...	93.92	73.14	20.67	83.53	.20	51.57	...	...
March	...	144.09	...	86.38	64.45	21.90	75.91	...	54.58	...	...
April	...	159.96	...	87.30	79.83	20.46	88.56	1.03	72.66	...	...
May	...	151.41	...	86.10	78.13	15.40	82.11	3.44	85.63	...	...
June	...	117.06	...	84.51	70.58	13.93	77.54	5.28	89.03	...	...
July	...	...	...	84.51	70.58	13.93	77.54	5.28	89.03	...	...
August	...	...	...	83.96	71.06	12.90	77.51	8.95	90.06	...	...
September	...	...	...	86.26	71.26	15.00	78.76	4.49	83.76	...	...
October	...	...	...	88.90	72.06	16.83	80.48	3.20	79.19	...	...
November	...	96.16	...	92.56	73.36	19.20	82.96	.45	65.36	...	...
December	...	139.48	...	88.25	72.74	20.64	80.49	...	69.61	...	...
Totals	..	1117.51	...	1069.00	870.22	213.86	970.08	31.59	869.73	...	...
Mean	...	139.68	...	89.08	72.51	17.82	80.84	2.63	72.49	...	...

1.—GENERAL REMARKS.

During the year under review the general health of both Europeans and natives was fairly good, and showed an improvement on that of the previous year, more especially so amongst the European community. As is to be expected on the West Coast of Africa, the disease most prevalent was malarial fever; and to this, along with small-pox, dysentery, and diseases of the respiratory system, the greater portion of the mortality was due. The greatest amount of sickness prevailed during the rainy season, June, July, August, and September, and this I attribute to the unusually low temperature during those months accompanied by very cold winds. The most unhealthy town in the Colony was Cape Coast. The number of cases of small-pox was much less than during the previous year, and this is undoubtedly due to the systematic manner in which vaccination has, as far as possible, been carried on.

The total number of cases treated in the hospitals of the Colony during the year was 1,305, and of these 148 died. The detailed reports of the various hospitals and dispensaries are given separately. Appendices I. and II.

2.—HEALTH OF THE EUROPEAN COMMUNITY.

This is the first year in which an accurate return of the Europeans resident in the Colony, Ashanti, and the Northern Territories, has been obtained; and the annexed return shows the number, death rate, and invaliding:—

How employed.	Number.	Deaths.	Invalided.	Death rate per 1,000.	Invaliding rate per 1,000.
Officials	286	10	24	34·96	83·91
Mercantile Firms, &c. ...	373	21	38	56·30	101·87
Mining Companies ...	778	18	98	23·13	125·96
Gold Coast Railway ...	297	6	20	20·20	67·34
Missions	96	2	1	20·83	10·41
Total	1,830	57	181	31·14	98·90

This return is remarkable as showing such marked differences in the mortality and invaliding in the various sections of the community; and the question very naturally arises: to what is this due? It is most undoubtedly in a very great measure attributable to the following:—

Period of service on the Coast.
 Liability to sun exposure.
 Nature of occupation.
 Facilities for exercise.
 Location of residences.

The highest rate of mortality is amongst the mercantile community; and these have the longest period of service—two to three years; many of them are also much exposed to the sun, having to work on the beach or the yards of the factories from about 6.0 a.m. till 11.0 a.m., and from 1.0 p.m. to 4.30 p.m. or 5.0 p.m. Their work is pretty hard, and the long hours and the tired feeling most men must have at the end of their day's labour leaves them unfit

for much exercise, in any form, and a period of rest is more generally indulged in. The residences of the merchants are almost invariably situated in the town, in the midst of the houses and huts of the natives, and I think it is now accepted as a fact that living day and night in close proximity to native dwellings is a very strong factor in the causation of malarial fevers.

The next highest rate is amongst the officials, and with them the conditions of life are somewhat different. The period of service on the Coast is only one year, with the exception of a few departments, notably the Public Works; the sun exposure is comparatively small; the hours of work are shorter and the facilities for exercise much greater, and as a rule more taken advantage of; and in most stations their residences are situated at a considerable distance from those of the natives.

Next comes the mining companies and the Gold Coast Railway, and in the case of both the conditions of life are very similar. The period of service on the Coast is usually eight months, followed by at least four months' leave to Europe; the work is certainly hard, but it is active healthy exercise; and in many cases there is a considerable amount of exposure to the sun. Their residences are almost invariably in the bush and at some distance from native towns and villages. In addition to the short tour of service, the Chief Resident Engineer of the Gold Coast Railway, and the managers of the different mining companies, have the power of at once dismissing and sending home any man addicted to alcohol, or for any other serious offence. This power is freely used, and I have no doubt it has had a very marked effect in reducing the invaliding and death rate.

In the case of the missionaries they, as a rule, live under very favourable conditions, and lead quiet, peaceful lives, so that a low rate of mortality is what one would expect.

After considering all the above circumstances as to conditions of life, &c., the only conclusion one can come to is that one of the most powerful factors in reducing the mortality amongst Europeans in West Africa is a short tour of service; this is clearly shown in the case of the railway and mining companies, the employes of which, although in many ways not living under such favourable conditions as the Government officials, show a much lower rate of mortality. In view of this it is most desirable that mercantile firms should reduce the period of service for their employes at least to eighteen months.

Although the death rate was very high in one section of the community, it should be noted that the rate for the European population as a whole was only 31.14 per 1,000, and I think this may be looked on as very satisfactory.

It has taken much time and difficulty to get this return completed, principally owing to the carelessness, or unwillingness, of the mining managers; many of whom had to be asked several times before the necessary statistics could be obtained; and in others the papers were so carelessly filled in as to be useless, and had to be returned for correction. A beginning has, however, been made, and as the statistics are of such great interest, and, in view of the largely increasing European population of the Colony, of such inestimable value for life insurance and other purposes, every effort will be made to keep it up in future years.

3.—HEALTH OF THE NATIVE POPULATION.

As registration of death is not compulsory in the Colony, it is impossible to give the death rate amongst the native population. So far as one can judge from the number of cases treated in the hospitals and dispensaries, the only means of estimating, the year appears to have been a fairly healthy one. The prevailing diseases were malarial fevers, small-pox, diseases of the skin, ulcers, yaws, diseases of the intestines, and of the respiratory and digestive systems. There has been a considerable decrease in the number of cases of guinea worm treated, as compared with the previous year.

4.—METEOROLOGICAL REPORT.

Meteorological observations were taken at the following stations :—Accra, Aburi, Cape Coast, Axim, Kwitta, Kumasi and Gambaga ; and the returns are appended. I regret to say that in some cases the returns have been so carelessly kept as to be of very little value, many officers taking little or no interest in this work, and leaving it entirely to their native dispensers.

The rainfall for the year was, on the whole, about the average ; but the greater part fell during the first half of the rainy season—February to the middle of July. The harmattan blew strongly at intervals during the months of January, February and March, and consequently the greater range of temperature prevailed during that period. From the middle of July till nearly the end of November a dry, cold wind blew almost constantly, and was the cause of a considerable amount of diseases of the respiratory and digestive systems amongst the natives. In other respects the meteorological conditions were much as usual, and do not call for any special remarks.

5.—SMALL-POX AND VACCINATION.

There was a very marked decrease in the number of small-pox cases, as compared with the previous year. The disease was most prevalent at Cape Coast, Elmina and the Volta District; a few cases occurred at Sekondi, Axim, Kwitta and Ada. Very few cases were observed in Ashanti.

The decrease in the number of cases is in a great measure attributable to the systematic manner in which vaccination has been carried out, and the immediate isolation of any case detected in a town or village. Excellent work has been done by the Public Vaccinator, various Medical Officers and Dispensers; and I have to thank the Basel missionaries for very valuable assistance in the Akwapim, Krobo and Anum districts; more especially the Rev. Mr. Mohr. It is practically impossible to get an accurate return of the number of successful vaccinations, as many natives fail to report themselves for observation; but 4,624 successful vaccinations were actually accounted for, and I have no doubt the correct number would be at least double this. The natives are gradually becoming much more willing to submit to the operation; and the Chiefs frequently ask for a vaccinator to be sent to their villages.

In most of the stations in the Colony the small-pox hospitals are only temporary structures; but there is a permanent stone building at Accra, and one is being built at Cape Coast, the town in which small-pox is, as a rule, most prevalent. Permanent buildings will also be erected in other towns in which such may be required.

6.—GAOLS OF THE COLONY.

Reports have been received from the following prisons :—1. Accra ; 2. Ada ; 3. Akuse ; 4. Axim ; 5. Cape Coast ; 6. Elmina ; 7. Kumasi ; 8. Kwitta ; 9. Saltpond ; 10. Sekondi ; 11. Tarkwa ; 12. Winneba.

The general health of the prisoners appears to have been very good in all the gaols; 346 patients were treated in the hospitals, and of these ten died.

The deaths were as follows :—

Accra	...	...	...	...	...	4
Axim	...	...	...	...	...	1
Cape Coast	...	...	...	...	...	2
Kwitta	...	...	...	...	...	2
Sekondi	...	...	...	...	...	1
Total	...					10

The general sanitary condition of the different prisons was as good as could be expected, taking into consideration the class of building in use. Most of the prisons are old forts, and in many cases are badly adapted for the requirements of a gaol. There are very few solitary cells, and the prisoners are confined in associated wards; a custom to be condemned on physical, sanitary and moral grounds. A central prison for long-sentence prisoners, conducted on the solitary system, is very urgently required. If this were provided most of the existing prisons would do very well for short-sentence prisoners. The water and food are, generally, good and sufficient.

The Medical Officers in charge of the various gaols report as follows:—

ACCRA.—General health very good throughout the year. Diets good; water good, but occasionally rather scarce. Ventilation of cells fair. The prisoners are employed at trades in the prison, and outside at road making and repairing, street repairing, sanitary work, &c.

ADA.—Health good; diet and drinking water good; ventilation fair. Prisoners employed repairing public roads and general scavenging.

AKUSE.—On the whole the health of the prisoners during the year was very good. Diet and water good; ventilation of cells and wards good.

AXIM.—General health good. Food good; water good. Ventilation of cells and wards fair. Prisoners employed at road repairing, whitewashing, carrying water, &c.

CAPE COAST.—Health fairly good; there were two deaths during the year. Both diets and drinking water good. Ventilation of cells and wards good, but accommodation for prisoners insufficient. Prisoners employed at cleaning cemeteries, cassada farming, cutting firewood for prison kitchen, cleaning hospital hill, cleaning Government school and beach.

ELMINA.—Health good; no small-pox. Seven cases chicken-pox. No other epidemic disease. Diet and water good. Ventilation of cells and wards generally defective. Prisoners employed at clearing bush and roads, public works, sanitary work generally, carpentering, shoe making, mat making, &c.

KUMASI.—Health good. Food and water both sufficient and good. Prisoners employed at road making and cleaning, gardening and general scavenging.

KWITTA.—On the whole the health has been good. Thirty were on sick list, and two died. Diet good. Water fairly good. The ventilation is not sufficient. Employed at road making, carrying water and general work.

SALTPOND.—General health has been very good. There was a slight outbreak of chicken-pox in October. Diet and drinking water good. Ventilation of cells good. Employed at usual work.

SEKONDI.—Health remarkably good. Food good, few complaints, and articles rejected only three times during the year. Ventilation good. Prisoners employed at road making and sanitary work.

TARKWA.—Health good; only a few mild cases of fever and dysentery. Twenty-one patients were treated in hospital. Diet and water good. Ventilation good. Prisoners employed at usual general work.

WINNEBA.—Health generally very good. Diet and drinking water good. Ventilation of cells good. Prisoners employed at whitewashing, road making and repairing, weeding and keeping clean open spaces.

7.—THE LUNATIC ASYLUM.

At the beginning of the past year there were 46 patients under treatment, and during the year 21 new cases were admitted, making a total of 67 cases, 47 males and 20 females ; during the year five were discharged cured, one was released and one died, leaving 60 under treatment at the end of the period.

The patient who died was a male suffering from cerebral meningitis, an inquest was held. The health of the patients has been very satisfactory. The food supplied to the inmates in the asylum has been generally of good quality. The water supply is good and quality excellent, it is stored in one large tank, situate in front of the asylum.

In addition to the ordinary dietary those patients who work in the garden and others who require it, are allowed extras. The occupation of the inmates consists chiefly in gardening, emptying latrines, supplying water, flushing drains and assisting Government labourers, concreting the sleeping wards ; most however, have absolutely refused to do anything.

Two warders resigned and two were dismissed.

8.—SANITARY REPORT.

During the past year very great improvements in the sanitation of most of the principal towns have been carried out. The greatest obstacle in the way of sanitary reforms is the rooted objection of the majority of the Natives to any improvement in their conditions of life ; so far as their persons are concerned they are remarkably cleanly ; but in their mode of life, houses, and surroundings generally, they are indescribably filthy, and do not appear to desire anything better. Every attempt to cleanse the Native parts of the towns is met with resistance, sometimes passive but very frequently active. As an example I may mention a case which occurred in one of the chief towns of the Colony, in which everything possible to improve sanitation was being done by Government ; kerosine was being used to destroy mosquito larvae, and the people were told by a Native Medical man (holding qualifications from a British University) that it was not kerosine that was being put on the water but carbolic acid, and not to allow it to be done. When educated Natives act in this way, what can be expected from the uneducated and ignorant ?

I append a short summary of the sanitary condition of the principal towns, and a report on the sanitation of Accra by the Health Officer of that town (Appendix VI.) ; which is managed by a Town Council.

CAPE COAST.—Very great improvements have been made in the sanitation of this town during the year ; the sanitary staff was largely increased, especially the number of scavengers. Some new latrines have been erected. Iron dust-bins have been placed in various positions about the town and are much used. Extensive road repairs have been carried out, and many new masonry drains laid down. The plot of land on the south side of Commercial Road has been taken over by the Government, and the insanitary and unsightly swish buildings pulled down. Numerous stagnant pools and ponds have been filled up. In November, Dr. Logan Taylor, of the Liverpool School of Tropical Medicine, came to Cape Coast, and took over charge of the Sanitary Department ; he organized the scavengers into gangs for the various divisions of the town, and started a Mosquito Brigade ; he devoted untiring energy to the work. and I cannot speak too highly of the benefits which resulted from his efforts. It is very difficult to improve the sanitation of Cape Coast as the Natives are strongly opposed to any improvement ; they are a truculent and unruly lot, and frequently assault the sanitary inspectors and scavengers ; in addition to this the houses are built so closely to one another, and so over-crowded, that to make it a really healthy town is a hopeless task ; since the opening of the

railway from Sekondi, trade has, I understand, fallen off very much, and if the place continues to go down, it is possible that in a few years it may be almost entirely abandoned by Europeans ; and from a health point of view this is greatly to be desired.

AXIM.—This town is in a fairly good sanitary state ; the streets are clean and in a good state of repair. The new main drain has proved of great benefit. The number of scavengers has been increased ; they are assisted by prisoners, and on the whole the work of sanitation is very well carried out.

ELMINA.—The town as a rule is kept in a fairly clean state. The Medical Officer recommends continuation of the lagoon embankment, lengthening of main drain, some new drains, efficient water supply and increase of the number of scavengers. As regards the water supply, there is a good rainfall at Elmina, and if the people would provide themselves with means for the storage of water, the supply should be ample. As there are a large number of prisoners at Elmina whose services are available, I see no reason, or necessity, for an increase of scavengers.

SALTPOND.—The town has been kept very clean, but for a time the latrines were rather neglected for want of enough men ; since, however, the prisoners have commenced assisting the latrine men they have been kept in proper order.

KWITTA.—The general cleanliness of Kwitta has greatly improved. At the back of the town there is a small swamp which seems to be a favourite breeding place for mosquitoes, but this the Health Officer has, by draining, endeavoured to dry up as much as possible. One latrine was washed away by the sea, and another had to be removed to save it. The streets are in a bad condition and want repairing.

TARKWA.—Since the removal of the Native town from the vicinity of the European, the sanitary state has been very much improved. The new Native town, which is situated about a mile from the European, is a model in its way. The streets are properly laid out, it is kept very clean, and in every way may be looked on as possibly the best Native town on the Gold Coast.

SEKONDI.—The sanitary report on Sekondi is included in Dr. Buée's report on Sekondi (Appendix III.)

KUMASI.—Owing to the large number of carriers available as labourers, the cleanliness of Kumasi is very good. The soldiers are responsible for their latrines, and for the disposal of refuse. The European water supply is excellent and of good quality ; the Natives obtain theirs from the surrounding swamps, and without any apparent harm except that intestinal worms are very common. There is a rough system of surface drainage which acts efficiently.

In nearly all the other towns of the Colony some sanitary improvements have been carried out ; but there is nothing of any special interest to record.

In Accra all Government tanks, and tanks attached to officers' quarters, have been made mosquito proof, and this has undoubtedly reduced the numbers of mosquitoes in the adjacent buildings. This protection should be extended to Government tanks in all parts of the Colony. No mosquito proof rooms have as yet been provided.

9.—STAFF OF THE DEPARTMENT.

MEDICAL OFFICERS.—The Medical Staff has been short of its full complement of officers, by from 10 to 12, almost throughout the year, but the amalgamation of the medical staffs of all the West African Colonies and Protectorates into one service, under the title of "The West African Medical Staff," together with the increased rates of pay, is beginning to attract men, and I have no doubt but that the department will soon be up to its full strength. At present there is not a Head of the West African Medical Staff, and I think it most desirable that one should be appointed; a department consisting of several units and without a proper Departmental Chief, can never be united in the true sense of the term; it is done in the case of the West African Frontier Force, and is equally necessary in that of the West African Medical Staff.

Three medical officers died during the year, one when on leave in England, and the appointment of one was cancelled.

EUROPEAN NURSING STAFF.—The European Nursing Staff has been up to its full strength of four throughout the year. One nursing sister was invalided out of the service.

DISPENSERS.—The staff of Dispensers has been up to its full strength, but as new stations are being opened, it will have to be increased. It is very difficult to get suitable pupils for training, as they are either insufficiently educated, or too stupid to learn, sometimes both, and as the minimum period of training is three years, it is frequently difficult to fill vacancies.

NATIVE NURSING STAFF.—This is always short-handed; and the pay is so small that Natives of fair intelligence will not work for it, as they can earn much more in other ways; neither do they care for the work, but for the European Nursing Staff it would be very difficult, or almost impossible, to carry on the nursing duties in anything like a satisfactory manner.

W. R. HENDERSON, M.D.

Principal Medical Officer.

VICTORIABORG, ACCRA,

June, 1903.

APPENDIX I.

HOSPITALS.

REPORT ON THE COLONIAL HOSPITAL, ACCRA, FOR THE
YEAR ENDED 31ST DECEMBER, 1902.

I beg to report that during the year 1902 the Hospital has been under charge of Dr. Knight and myself. There have been no important alterations in the building. The roofs were tarred and whitewashed and the gutterings cleaned. The underground tanks have been made mosquito proof, but the down pipes have no gauze to prevent mosquitoes from entering the tank.

IN-PATIENTS

The number treated during the year 1902 was 402 as against 696 for the year 1901, showing a decrease of 294. This was due to a large number of small-pox cases treated during the year 1901. The 402 were composed of the following :—

Europeans 56 as against 52 for 1901.

Native Officials 34 as against 41.

Civil Police 119 as against 86.

Native Non-Officials 193 as against 514.

The number of small-pox cases treated during 1902, was 47 as against 303 in 1901.

The health of Native officials continued to improve.

The increase in the number of Civil Police admitted this year was due to the increase of their establishment.

OUT-PATIENTS.

New cases :—

Male, 1,788 as against 1,070 for 1901.

Female, 1,131 as against 758 for 1901.

Civil Police 1,280 as against 1,166 for 1901.

Old cases :—

8,624 as against 4,979 for 1901, showing an increase of 205 new cases and 3,645 old cases.

There have been very few operations performed this year. It is with the greatest difficulty natives can be persuaded to undergo an operation.

MORTALITY.

There has been a very low mortality among Europeans during 1902, only three deaths occurred as against seven in 1901. The mortality among the Natives was 37 as against 84 in 1901.

EXPENDITURE.

The total expenditure for diets during the year has been £289 16s. 2d., as against £327 2s. 11d. for the previous year. The average monthly expenditure was £24 3s. 0d. The greatest expenditure was in the month of February, being £37 8s. 3d. The least in the month of October, being £14 16s. 4d.

The fees recovered from In-patients were £168 19s. 6d., as against £114 19s. 2d. for the previous year.

The fees recovered from Out-patients were £23 12s. 2d. The instruments are in a good state of repair. No new major instruments have been added during the year.

DISPENSARY.

The Dispensary has been kept in good condition under the charge of the Chief Dispenser, Mr. Cato, assisted by Messrs. Wulff, Plange and Coker for varying periods.
There have been 13 Dispenser Pupils under training.

EXAMINATIONS

Examinations were held in January and July. At the January examination two candidates presented themselves and passed.
July examination four candidates presented themselves and two passed.

NURSING.

The Nursing has been under the charge of Miss Wallace and Miss Timbrell, and for a short time Miss Gould.

HOSPITAL.

The Hospital has been kept very clean and orderly; and notwithstanding the fact that there has been constant relays of European and Native patients during the year, and that only one European sister has been here for the greater period, the work has been performed very satisfactorily. Native Nurses are still very difficult to obtain, the salary being so small, and their duties continuous. They have, however, worked to the best of their ability.

OFFICE.

The office work has been done by the Chief Dispenser, with the assistance of two Dispenser Pupils.

METEOROLOGICAL.

Readings have been taken as usual twice daily during 1902. Rainfall 32.15 inches, as against 35.75 inches in 1901, a decrease of 3.60 inches.
The principal rainfall was during the months of February, April, May and June. In June 11.88 inches of rainfall was registered. During the last six months of the year very little rain has fallen.
The records of the Solar Maximum Thermometer were highest during the months of September and October. The Shade Minimum Thermometer was lowest during the months of November and December.

THE ANEMOMETER.

Platform and stairs are still awaiting repair, so no record of the wind velocity can be taken.

NON-OFFICIAL EUROPEANS.

During the year there have been 200 European Residents in Accra for long or short periods, of these four have died, and 19 have been invalided to the Canary Islands and Europe.

(Sgd.) G. J. RUTHERFORD,
Medical Officer.

REPORT ON THE COLONIAL HOSPITAL, CAPE COAST, FOR
THE YEAR ENDED 31ST DECEMBER, 1902.

EXTERN DEPARTMENT.

New cases treated 3,924.
Old „ „ 10,556.

INTERN DEPARTMENT.

EUROPEANS.

					No. of Admissions.	Deaths.
1st Quarter ...	...	...	...	...	21	4
2nd „ ...	...	...	...	...	14	2
3rd „ ...	...	...	...	...	8	3
4th „ ...	...	...	...	...	6	—
					<u>49</u>	<u>9</u>
					<u>49</u>	<u>9</u>

NATIVES.

						No. of Admissions.	Deaths.
1st Quarter ...	...	...	...	...	...	148	8
2nd „ ...	...	...	...	...	...	134	9
3rd „ ...	...	...	...	...	...	122	16
4th „ ...	...	...	...	...	...	102	16
						<hr/>	<hr/>
						506	49
						<hr/>	<hr/>

SURGICAL OPERATIONS.

Eighteen operations were performed, principally minor.

MEDICAL STAFF.

The following Medical Officers were in charge of Hospital during the year, G. L. Barker, W. A. Murray, and Dr. W. A. Pitt, Temporary Medical Officer.

NURSING STAFF.

Nursing Sisters A. M. Deeks and Ida V. Gould.

EXPENDITURE.

	£	s.	d.
Salaries	1,473	10	0½
Diets of Patients	190	8	0½
Fuel and Light...	8	14	1½
Medical Evidence	0	0	0
	£1,672	12	2½

REVENUE.

	£	s.	d.
From Paying Patients	96	4	4
Drugs sold to Medical Officers for Private Practice	15	11	9 $\frac{1}{4}$
Stoppages	23	13	7
Sale of Medical Comforts	4	15	3
Fines on Subordinates	2	18	6
	<hr/>		
	£143	3	5 $\frac{1}{4}$

REMARKS.

The Hospital Buildings have been painted and whitewashed, the wards repaired, the roofs re-felted, and the tank cleaned out, re-covered and whitewashed.

Dr. Pitt was appointed Temporary Medical Officer in March last, and the work done by this officer has been of a very satisfactory nature.

SMALL-POX.

There were 139 cases of Small-Pox during the year.
The number of deaths being 17.

Number of successful vaccinations 68.

(Sgd.) WALTER A. MURRAY,
Deputy Principal Medical Officer.

3.—REPORT ON THE COLONIAL HOSPITAL AT AXIM FOR THE YEAR ENDED 31st DECEMBER, 1902.

THE COLONIAL HOSPITAL.

The Colonial Hospital stands on an open space on the seashore just outside the town. The Hospital and its grounds are unfenced and absolutely unenclosed. It is therefore impossible to make a garden, as anything planted is soon destroyed by fowl, or goats, or children.

THE HOSPITAL BUILDINGS.

The decayed woodwork has been lately replaced, but the Hospital requires painting throughout, and the roof should be tarred before the rains begin. Internally the wards are clean and tidy as no stores are now kept in them.

PHARMACY AND STORE.

The pharmacy has been supplied with more shelves and a suitable table for dispensing, and sufficient shelves have been erected in the store to enable the storing of dressings and other material in the wards to be abandoned.

INSTRUMENTS.

The instruments are almost all of the newest type, and the dressings and drugs are all that could be desired.

WATER SUPPLY.

There are no tanks attached to the Hospital buildings. All the necessary water has to be carried from the small tank at the Medical Officer's bungalow, distant more than a quarter of a mile.

Two covered barrels have been recently placed under the down pipes but they hold enough only for about a week.

OUT-PATIENTS.

The out-patients used to be seen in the pharmacy, a small room opening into the European ward, and so full that there was hardly space to pass between the table and shelves covered with bottles.

European patients had to endure the noise of the treating of a crowd of natives from 8 to 10 daily. At present out-patients are seen in the native ward, and the dressings are done in the back veranda. This is a very unsatisfactory arrangement as in-patients in the ward are disturbed, and the floor of the veranda is contaminated by being soaked with the washings of foul ulcers.

All this would be remedied and provided for by the scheme proposed by the Principal Medical Officer when he inspected the Hospital some months ago, but so far the work has not been begun.

OPERATION ROOM.

There is no operation room, and all operations must be performed in the ward. An operation room is provided for by the scheme of the Principal Medical Officer, and is urgently required.

LATRINES.

Behind the Hospital on the seashore, one at each angle of the building, there are two public latrines. They are so placed that their effluvia are blown into the wards in any state of the wind. They should be removed as soon as possible and replaced by sea latrines as proposed in the above scheme.

(Sgd.)

W. M. GRAHAM, M.B.,
Medical Officer.

4.—REPORT ON THE COLONIAL HOSPITAL, ELMINA, FOR THE YEAR ENDED 31st DECEMBER, 1902.

1. The Hospital was whitewashed and repaired lately, and is now in a clean and excellent condition.

The Contagious Diseases Hospital consists merely of palm huts on a site half a mile north of the town. It serves its purpose well.

2. I would suggest that when the usual requisitions for drugs and instruments are approved at Accra, that the drugs and instruments for the station be sent direct to it from the Crown Agents, or a vote be allowed to the station, for expenditure on drugs and instruments at the discretion of the Medical Officer in Charge, subject to the approval of Headquarters. The knives are very blunt, and require re-grinding and setting.

3. The staff work satisfactorily. I have been in charge during the whole year. The work has been as a rule light, but at times an epidemic of cases occurs, or rather a case demanding close attention, and then my other official duties are much in the way.

4. Forty-four cases of Small-pox occurred during the year, six of which proved fatal. The disease was usually mild and discrete. No vaccination was performed. A Jenner Institute for the Coast would be an advantage.

(Sgd.) O. BROWNE,
Medical Officer.

5.—REPORT ON THE COLONIAL HOSPITAL, KWITTA, FOR THE YEAR ENDED 31st DECEMBER, 1902.

The Hospital is a low bungalow situated on the beach about 35 yards from the sea. If the sea encroaches much more, I fear it would be washed away. It is composed of one large room which has a partition cutting it into two portions, one male and the other female. The female portion contains four beds, the male contains eight beds. Off this large room there are four small rooms which are used as Dispensary, out-patients, dresser's and store rooms.

The Hospital is well lighted and ventilated. It is clean and well looked after, but wants painting.

At present there is a fair stock of drugs in the dispensary.

The store-room is badly ventilated and the drugs are liable to be spoiled owing to the heat.

The operating table is useless owing to the flaps being broken. All operations have to be done in the main ward as there is no operating room.

GENERAL CONDITION.

As regards the health, the first part of the year was fairly healthy but this latter part has not been so. I believe that the lagoon being partially dry accounts for this.

Seventeen European officials were treated. Two were invalided, one for Epileptiform Convulsions, and one for Fever and Orchitis.

During the year one latrine and lavatory was erected.

111 were treated as in-patients in the hospital, of which ten died.

1,531 new cases and 4,031 old cases were treated as out-patients.

PREVALENT DISEASES.

Fever—Remittent and intermittent.

Venereal Diseases—The venereal diseases are most common and of the worst type I have ever seen.

Rheumatism, Lung diseases, Dysentery, Constipation, Skin diseases.

Wounds.—Stabbing was very prevalent but has decreased lately: 168 wounds were treated.

THE HOSPITAL STAFF.

The Hospital Staff consists of one dispenser, one dresser and one cook.

SMALL-POX.

One Small-pox shed was erected but fell down shortly after.

Seven cases of Small-pox occurred, one case died.

(Sgd.) H. COOKMAN,
Medical Officer.

6.—REPORT ON THE COLONIAL HOSPITAL, ADA, FOR THE YEAR ENDED 31ST DECEMBER, 1902.

1. I have the honour to submit the following Report on the Colonial Hospital of this Station.

2. The Colonial Hospital has been in a very fair state. There are three comfortable wards in the Hospital, two of them contain three beds in each, the native male and female wards. The European ward contains two beds. These wards are all kept clean. The roof of the Hospital, reported by my predecessor to have been leaking, has been repaired.

3. The Hospital is kept fairly clean and in good order; there is a Mortuary for the Hospital.

4. There was a good supply of Drugs, but the Out-patient attendances, both new and old cases, being larger than that of last year a large quantity of Drugs has been used.

5. The stock of Surgical Instruments is in good order with the exception of the Midwifery set, which is in the condition that it would be dangerous to use; they should be replaced by a new set.

6. There was a fair number of minor operations. No major operations were performed. There have been many cases requiring major operations, but the natives are not willing to have them done, thinking they would die from the effect of Chloroform.

7. There has been a fairly great attendance of out-patients, consisting as follows:—

New cases 2,519, old cases 3,520, total 6,039, comparing this year's attendance to that of last year there being a difference of 775.

Thirty-six cases were admitted into the Hospital as In-patients. Out of this number two cases died. One from Septic Pneumonia, and the other from Burn.

8. A few cases were vaccinated, but none were successful, the lymph being unsatisfactory.

Forty-eight cases of Small-pox were admitted, in addition to the twenty cases remained; out of this number there have been seven deaths, the other cases were discharged as cured. The huts were burnt on the 4th of October.

I am glad to say that there has been no case of Small-pox since.

9. Total fees collected from Dispensary Paying Out-patients amounting to £8. 16s. 6d. It seems the poorer people are the only attendances.

(Sgd.) EDGAR EVANS,
Medical Officer.

APPENDIX II.

DISPENSARIES.

REPORT ON THE DISPENSARY AT SALTPOND FOR THE YEAR
ENDED 31ST DECEMBER, 1902.

I have the honour to submit the Annual Report for Saltpond for the year ending December 31st, 1902.

During the time the district has been under my charge the health of the community has been good. Amongst the Europeans there have been several cases of Intermittent Malarial Fever. And one of Pernicious Remittent Fever, which proved fatal. A case of Acute Dysentery, which was invalided. And two of Malarial Debility, which I considered necessary to send for a sea trip. From the reports of my predecessor, for the months January to May, I gather that the health of the Europeans was good, there being but one death.

The Dispensary at Saltpond is a rough structure built of wood, it consists of three rooms. One is used as a consulting room, one is a store, and the third for dispensing. It was evidently intended as a substitute for more permanent building. There were 1,164 cases treated during the year, and 3,238 attendances of old cases.

The so-called Hospital is nothing but a shed and a very dilapidated one, even in its best days it is hard to understand how it could be used as a Hospital. It has three rooms, two of them were intended for wards, and the other is the post-mortem room. The district urgently requires a Hospital, and if one were provided there would be no lack of suitable cases.

There is a very good supply of drugs, medical comforts, etc., in the Dispensary. There is no drug in ordinary use omitted. With regard to dressings, I think Iodoform gauze, or even plain surgical gauze, which by steeping in the various antiseptics could be made into a very useful dressing, might be added. The plain gauze would be much cheaper than lint.

The sanitary condition of the town has been good. The lagoon is undoubtedly the principal cause of Malaria and illness amongst the Europeans.

At Anamaboe the town is clean. A dispensary is held there once a week by the dispenser, who is quite capable of treating the cases that attend. The Medical Officer goes to Anamaboe once a month on inspection, and to hold a dispensary.

The Dispenser, Mr. Sutton, is a conscientious hard working man, he takes a real interest in his work, and has given me every satisfaction in the way he carries out his duties.

The Dresser, Mr. Quansah, has only been a few months here, but has picked up his work wonderfully since he started, he had no previous knowledge of dressing, etc., but is now very useful, and can dress and bandage creditably. I would ask that he be put on the permanent staff of dressers.

(Sgd.) MICHAEL J. LOUGHREY,
Medical Officer.

2.—REPORT ON THE DISPENSARY AT AKUSE FOR THE YEAR
ENDED 31ST DECEMBER, 1902.

During the year 1902 there were 494 new cases treated at the Dispensary. This shows an increase of 138 in the number of persons who sought medical relief in 1901.

Of these new cases, Malaria, Ulcers, Rheumatism, Syphilis, Bronchitis, and Injuries formed the bulk.

There has been a marked diminution in the number of cases of Small-pox. Indeed, during the last quarter of the year not a single case come under observation.

A small room, in an outhouse of the Medical Officer's quarters, is used as a Dispensary, office and store-room. No beds are provided.

A pupil dispenser, with a necessarily imperfect knowledge of his work, is usually sent to this station. In the absence of the Medical Officer the dispenser takes charge of the Dispensary, treats cases, and attends to accidents. The Medical Officer, who also acts as Commissioner of a large district, is absent from his station for fifteen days in the month.

There were four different Medical Officers in charge during the year, viz. :—Drs. Waldron, Coker, Knight, and myself. I took up the duties of the station on the 13th November, 1902.

(Sgd.) F. M. SIMMONDS,
Medical Officer.

3.—REPORT ON THE DISPENSARY AT TARKWA FOR THE YEAR ENDED 31st DECEMBER, 1902.

ATTENDANCES.

The Register shows 443 new cases (composed of 85 Police, 326 males and 32 females) and 373 old cases (171 Police, 176 males and 26 females). These totals in comparison with those of last year, namely, 237 new cases and 249 old cases, show a large increase; and such increase was due to the arrival of several carriers with the Gold Coast Mines Survey party in October last.

The majority of the patients during the year, however, have been Government Officials, carriers and labourers.

The natives appreciate the value of European medicine, but for the distance they have to walk from Tarkwa, which is over forty minutes fast walking.

PREVALENT DISEASES.

The prevalent diseases treated during the year were: Intermittent Fever, Dysentery, Rheumatism, Bronchitis, Constipation, Diarrhoea, Skin Disease (Eczema), Wounds, Ulcers, Guinea Worm and Venereal Disease.

REVENUE.

The total revenue for the year was £4. 6s. 4d., being derived from the sale of Medical Comforts, Drugs and Sundries and Pauper Paying Patients.

Finally, I beg to draw attention to the fact that it would be of very great advantage to the Natives in this country if the Dispensary was shifted from its present situation to Tarkwa Town, or thereabout, where I am sure more attendance would be got from all classes of men. I would therefore strongly recommend, if I am allowed, that a substantial and permanent Hospital and Dispensary be erected for such purpose.

(Sgd.) W. BEN. HAGAN,
Dispenser in Charge.

APPENDIX III.

REPORT ON THE HEALTH OF SEKONDI FOR THE YEAR ENDED 31st DECEMBER, 1902.

GENERAL.

The general health of Sekondi has been good during 1902, better than it was at the time I wrote the last report.

SICKNESS, EUROPEAN.

The commonest ailment is, of course, Malaria, usually in the form of Remittent Fever, though among those who have been in India, or some other of the malarious climates, Intermittent is more common.

There have also been a few cases of Hæmoglobinuric Fever, none of which I think had origin in Sekondi, some Dysentery, Sore Throat, and two cases of Bilious Remittent Fever.

SICKNESS, NATIVES.

Among the natives Small-pox is the most important disorder, and it seems to be endemic, though from May to November no cases were reported.

Malaria is also common, but does not usually cause more than a slight indisposition, Dysentery is also common and rather fatal, probably because it is so often neglected till too late.

Guinea Worm does not seem to originate in Sekondi, those cases which have come under my care appear to have originated in Accra.

My daily average of sick is about 2.5, but only includes cases that kept the patients from duty or business.

The daily average for the Railway is 5.8.

DEATHS.

The total number of European deaths last year was seven, of which four occurred in the Railway Hospital.

So far as I am able to say, the total number of deaths was 251, I am unable to give any idea of the death rate as the number of inhabitants is not known.

POPULATION.

The native population has largely increased during the year, I believe more than doubled.

There has also been some increase in the European population.

FOOD.

There has been an important alteration in the food supply during the year, in the establishment of a fresh meat store run by Europeans; only beef is at present supplied, the bullocks being brought from Konakri. They are not for the most part big beasts, but the meat is good and carefully treated.

Both Europeans and Natives are taking more trouble to grow vegetables, and later on a good supply may be procurable.

Fish is usually plentiful, but from March to June the quantity is more limited on account of the weather.

WATER SUPPLY (EUROPEAN).

The European water supplies are from the tanks attached to the various houses, and as some of these have only been completed since the last rainfall in July there has been a serious shortage, and we are at present anxiously looking out for rain.

There are no separators, nor any device for intercepting mosquitoes, at present in use, and some of the tanks are of wood, which, shrinking in the dry weather, leads to much loss of water.

One of the conditions for leave to build is that the building shall have tank accommodation to the extent of three gallons for each foot of roof area, which means that a fall of seven inches will more than fill all the tanks if the guttering is efficient, but neither the recently erected Post Office nor the quarters provided for the use of the Government Clerks have any tanks.

RAINFALL.

The rainfall for the last two years has been as follows :—

1901	...	January	·46,	February	·86,	March	2·78
1902	...	"	·34,	"	8·98,	"	·99
1901	...	April	2·35,	May	15·33,	June	30·47
1902	...	"	6·98,	"	7·40,	"	31·15
1901	...	July	13·21,	August	1·68,	September	7·52
1902	...	"	4·03,	"	1·49,	"	1·03
1901	...	October	9·18,	November	5·25,	December	1·97
1902	...	"	4·32,	"	2·59,	"	·09

If this table may be taken as an indication, there will only be two months besides June in which the tanks may be expected to be filled up.

The regular heavy rainfall in June leads the servants into prodigal habits with the water, and it is only when there comes a time of real scarcity that they will take the smallest trouble to economise, and as the proprietor will not often be able to efficiently supervise and prevent theft larger tanks are advisable.

WATER SUPPLY (NATIVES).

Natives draw their supplies for the most part from wells, and all those along the sea coast are brackish.

The lagoons unfortunately do not lend themselves to the purpose of drinking, though they are not nearly so salt as one would expect; an estimation of the chlorides in the different lagoons and two wells gave the following results :—

1st	Lagoon at sea end,	600	grs. salt per gallon.
2nd	" " " "	83·3	" " " "
3rd	" " " "	983·3	" " " "
"	" $\frac{1}{2}$ mile up	450	" " " "
"	" 1 "	20	" " " "

though unfortunately this cannot be relied on in times of great drought, as an estimation a week later proved, for it was then 150 grs. per gallon, showing that the springs supplying it had given out :—

Well at Small-pox Hospital, 280 grs. per gallon.
,, behind Railway Hospital 8·3 „ „ „

This last is a good water in other respects, such as colour, smell, smell of charred residue, and freedom from free ammonia, and it will in all probability, be of some service to the town when enlarged and properly protected from the possibility of accidental pollution, that is if the supply does not run short.

Steps are being taken to arrange a water supply at an early date. Wells can only be a temporary substitute for some impounding scheme, or for bringing a supply from Ashiem, about six miles away.

SANITARY.

The Sub-Assistant Inspector of Police is the Inspector of Nuisances, and he has under him a staff composed of two Assistant Sanitary Inspectors and thirty Scavengers, of whom eight are latrine men ; this occupation the men cordially dislike, and as they constantly desert in consequence, much inconvenience results ; it has been proposed to use prisoners exclusively on this duty.

A system of collecting and emptying latrine pans for those Europeans who are willing to pay for it has been started, and so far seems to work well. The pans are emptied into the sea, either at the north-east end of the Fort reef or at the small reef beyond the Cliff bungalow ; the pans, however, from the Railway bungalows are for the most part emptied into pits dug in the bush.

A destructor is contemplated.

The foreshore is much cleaner than it used to be, and is now seldom bad anywhere but Low Town. This is sheer native independence, for there are two latrines in proximity.

DRAINAGE.

The drainage of the town as regards storm water has materially altered, in consequence of the formation of the main streets, and the Railway authorities have cut a series of drains in the station yard, which has converted it from a swamp into a comparatively dry place.

At present little draining has been done in the native quarters of the township, but it will be done in its turn, and meanwhile swish holes and other places likely to collect stagnant water are being filled up.

HOSPITALS.

A new Native Hospital has been built by the Railway, and the old Native ward has been converted into an European ward capable of accommodating twelve patients ; also the so-called private ward has had bars put into the window-frame, converting it into a strong room if necessary.

The Railway Hospital Staff consists of two Medical Officers, a Matron, and nine Native Nurses, Dispensers and Dressers.

There is a Colonial Dispensary, which is at present situated under the Colonial Medical Officers' quarters ; this will be altered when the hospital is handed over to the Colonial authorities.

A new Small-pox Hospital has been put up on the land adjoining the big lagoon. It consists of male and female huts, with a smaller one for the attendants, a well, and the necessary latrines. The enclosure is roomy enough to provide for the erection of more huts in case of epidemic, also for the burial of such patients as may die.

CEMETERY.

There is only one Cemetery now, situated on the Chama road about a mile from the Fort, it is divided into European and Native Cemeteries, and the Native part is sub-divided for Christians and others.

(Signed) KENNETH BUÉE,

Senior Medical Officer.

APPENDIX IV.

ANNUAL MEDICAL AND SANITARY REPORT, ASHANTI, 1902.

For the past year the duties of the Medical Officers in Ashanti have been almost solely those of the charge of troops and the Europeans with them. Kumasi, as headquarters, has had an average of some 800 Native troops, with three outlying companies at least, each of about 180 men.

The Kwissa Company, with two Europeans and a Commissioner, has only had the services of a dispenser; several deaths of soldiers have been reported. The same complaint had been sent in from Odumassie: this station was even without a subordinate official until July last. At Mampon there has been a Medical Officer the whole year.

Kumasi, for nearly six months, had only the services of one doctor, with a young dispenser and a dresser of but little service on his arrival. At the same time, with this quite inadequate staff, there was one of the Ashanti doctors doing Commissioner's duties at Attabubu, with only ten men in his medical charge.

In Kumasi there were an average of 30 Europeans during the year, with one death from exhaustion after Remittent Fever. There were two officials invalided in the year, one for "Black-water" Fever, one for nervous debility with mental symptoms; also a non-official European for repeated Malarial Fever; one other European for Repeated Remittent was invalided to Mampon for three weeks. The housing of all the Europeans in Kumasi is now good, properly built quarters being available for all; the out-stations are much more healthy than Kumasi even, this latter being a great improvement upon the coast. The altitude of 680 feet is one great factor in this: another is the greater range in the minimum and ground temperatures owing to the earth never becoming saturated with heat as on the coast line; in the harmattan the minimum kept to about 61° to 62°, and the terrestrial temperature to 10° lower.

This greater healthiness has a disadvantage in that Europeans new to West Africa refuse to believe that, because they do not at once feel the change of climate, there is anything to be careful about; there has been much sickness the last two months amongst the first year's men, who are just now not usually more than eight months out. It is quite impossible to get the usual new European to understand, until he learns it by painful experience, that this country is neither India nor England, and that the advice of medical men is founded on many years of technical experience, of which they are ignorant.

I believe that the mining population have had a very good year as to health, several men who probably would have died on the mines were buried on the road up, chiefly owing to the unhealthy conditions under which they had to stop in Cape Coast awaiting transport. The railway will now cut off this source of mortality, besides affording a better route, and cheaper, for food supplies. Obuassi, to which place it has now reached, has within a day's journey probably 120 Europeans. There are probably another 80 Europeans in Ashanti, with about five doctors in charge, all mining men.

The sanitary condition of Kumasi is good, with an excellent water supply for officials. Several wells are desirable for the natives and soldiers, they generally use the swamp water, but suffer surprisingly little from diseases so caused. The military are responsible for the cleanliness of their lines, and the Ashanti chief's each for their quarters; as usual, the Fantis at Asafu are the worst for sanitation. Until the end of the year, only Kumasi itself was under the sanitary clauses of the Criminal Code; since there has been civil administration the whole year; the condition of affairs in the out-stations was not satisfactory. Now the Chief Commissioner has power to declare what towns he thinks fit to be under these clauses. In connection with this the position of mine doctors comes up. They have, of course, the ordinary powers of an occupier, or servants of such, as to the property of the mines, but none to enforce cleanliness on the outskirts of the concession they are working. It might be worth while in certain cases to ask them to become Health Officers; this confers legal powers of arrest for offences if their area is proclaimed under the Ordinance; the Governor or Chief Commissioner can appoint "any person" as such.

The railway should be in Kumasi by the end of 1903, with a large increase of population by then, or soon after; at the rate the open spaces are being occupied, the ground suitable for native trench latrines will soon be exhausted, and some other means of disposal have to be considered. Even now, a rainy season of grave severity would cause contamination of the swamps; I estimate that some 5,000 to 6,000 people are now in Kumasi, with another 1,000 in the Hausa-town outside. With a railroad in the town the question of a proper system of pan latrines could be considered on these lines. These pans to be conveyed after

midnight to a siding, to be placed on specially-built trucks, and these to be drawn by manual labour to some clearing (joined by say 200 yards of rail to the main line) properly selected, where the contents could be sun-dried. On more than three-fourths of the outskirts of Kumasi there is the swamp; if the experiment of rice cultivation succeeds, the reclamation could be worked with the object of confining the two streams forming this swamp into proper courses; as building becomes less and the railway approaches, more and more carriers, now kept ready for military emergency, would be available for this work.

Since all the European quarters are up on the central ridge of the town, with soil that easily drains, there is never the fear of water-logged ground causing ill-health. Mosquitoes only visit the quarters a storey off the ground in the heavy rains. I strongly suggest that the Senior Medical Officer here, when the occasion arises, should be consulted as to the site for the railway quarters; as far as I know it has not yet been finally settled on. Some means then would be desirable to improve on the primitive way in which the present excellent drinking water is collected.

Ashanti, with the railway into the heart of the country, and with the majority of the European men of some experience as to the climate, instead of the majority being new to it, should develop into one of the healthiest parts of West Africa. This does not however mean that it will ever be the health resort that certain employers of white labour try to make out it is.

(Sgd.) G. ROME HALL,

Senior Medical Officer.

APPENDIX V.

MEDICAL REPORT, NORTHERN TERRITORIES, FOR THE YEAR 1902.

GENERAL HEALTH, EUROPEANS.

The geneal health for the year amongst the European Community (official) was very bad, as shown by the following records:—

A.

Total Strength.	Average number of months served in N.T.	Died.	Invalided.	Placed on Sick List.
32	6½	2	5	27

Although the mortality from climate diseases was small amongst European Officers; being one case, yet the health record of the European Officers was exceptionally bad, as no less than 81 attacks of Malarial Fever and other climatic disease occurred.

The cause of death was respectively—

- 1st—Malarial fever.
- 2nd—Lightning stroke.

Besides these official cases, one death occurred amongst the mining community at Banda, from climatic disease, and I understand that a foreman of works, who proceeded on leave from here, died before reaching Liverpool, but I have not any information as to the cause of his death.

The diseases suffered from were almost without exception tropical diseases, such as Malarial Fevers, Dysentery, Diarrhoea, &c.

The following is a table of diseases recorded :—

B.

1st.—DISEASES OF MALARIAL NATURE.

Number.	Description.
1	Paroxysmal Haemoglobinuric Fever.
3	Bilious Remittent Fever.
28	Remittent Fever.
3	Intermittent Fever.
33	Unclassified Fevers (probably Remittent).
1	Neuritis (following on Malaria).
2	Asthenia, Debility.

2ND.—DISEASES OF INTESTINAL ORGANS DUE TO CLIMATE.

Number.	Description.
2	Dysentery.
4	Diarrhœa.
1	Colitis.
1	Gastritis.
1	Dyspepsia.
1	Bilious attack.

Total tropical or climatic diseases : 81.

3rd.—DISEASES NOT ATTRIBUTABLE TO CLIMATIC CAUSES.

Number.	Description.
1	Phthisis, " Pulmonary."
1	Lymphadenitis.
1	Otitis.

Total : 3.

Causes of invaliding were as follows :—

Number.	Description.
1	Neuritis "Peripheral."
2	Remittent Malarial Fever and Asthenia.
1	Phthisis "Pulmonary."
1	Bilious Remittent Fever.

In the case of the two officers invalided for Remittent Fever, both were due for leave, and on leaving here, were in a poor state of health.

The above tables show that the greater proportion of diseases recorded were clearly due to climatic causes.

I consider it worth recording that only two cases came under notice in which it could be said that the illness of officials could be attributed to their living under conditions unsuitable to the climate. The health at every station in the Northern Territories was bad, Kintampo not being quite as unhealthy as the other stations.

The end of the year proved to be the most unhealthy, as shown by the table marked C, which, although incomplete, gives a clear idea of how unhealthy the year was. In computing the strength of the stations I only record the European Officers detailed for duty at the station.

C.

		Gambaga.		Wa.		Kintampo.		Salaga.		Totals.	
		Strength.	No. on sick list.	Strength.	No. on sick list.	Strength.	No. on sick list.	Strength.	No. on sick list.		
January ...	...	10	5	3	1	3	2	} No Records.			
February ...	...	10	5	2	0	3	0				
March ...	...	12	6	3	1	3	0				
April ...	...	14	7	2	0	3	0				
May ...	...	9	0	} No Medical Records.		4	3				
June ...	...	11	3			5	1				
July ...	...	16	6	3	1	3	1	3	3	25	11
August ...	...	10	5	3	2	3	0	2	1	18	8
September ...	...	10	3	2	1	3	0	2	2	17	6
October ...	...	11	4	2	2	3	2	3	1	19	9
November ...	...	10	5	2	2	3	1	3	2	18	10
December ...	...	9	5	3	2	3	1	3	2	18	10

The records in this report are an incomplete summary, as many attacks of fever were not recorded owing to the absence of a Medical Officer.

I have also confined my records to European Officers serving in the Northern Territories. No health returns are available from the Boundary Commissioners or Mining Community, who as far as I can judge presented a somewhat similar record to this official one.

I must describe the health of the European Community in the Northern Territories as being remarkably bad, and the year 1902 was probably the most unhealthy on record.

The prevalent diseases were Tropical diseases, and in seeking for an explanation as to their causes, I find that there is considerable exposure to malarial infection, and to water-borne diseases such as Diarrhoea and Dysentery. This is more especially the case with officers on the march, where such conditions are quite easily accounted for, as the villages where officers rest are generally infested with mosquitoes, sand flies and other pests, and there is scarcely a village where the anopheles mosquito is not found. As to the question of water, it may be said that in the rainy season water is abundant and pure, whereas in the dry season it is scarce and generally unfit for human consumption. In some places a small water hole provides all the supply for a village, and in this hole cattle are watered, the natives, even when sick, bathe in it and use it for drinking water. Unless the European Officer carries water from some stream previously encountered, he is compelled to have this village water precipitated with alum, boiled and filtered, a process the value of which largely depends on his own personal supervision; even under the most favourable circumstances it is probable that some toxic substances occasionally find their way into the water drunk by Europeans, and perhaps intestinal diseases are contracted in this way.

I am not inclined to be too optimistic as to the prevention of such diseases as Malaria, acute or other forms of Dysentery. It would be idle to conceal the fact that so called preventive measures employed by officers travelling have purely relative and not absolute result, and that measures of too rigid a nature are most irksome in application and of doubtful utility, and too much malarial hypochondriasis results from officers getting an exaggerated view of the dangers they are encountering.

On the other hand I cannot too strongly condemn those who are actually careless about the adoption of ordinary preventive measures, a class of people whose only idea appears to be to live in a careless and dirty manner, which is most injurious with regard to their health.

II.—Another cause which militates against health in the Northern Territories is the exposure and hardship undergone by officers travelling in the rainy season, when long and trying marches are carried out under the most unhealthy conditions. Long marches through swamps or swampy country are endured. Heavy rains and marked alternations in temperature occur, and the exposure, continual discomfort, and fatigue undergone is a tax on the strongest physique

III.—I have noticed that officers leaving the Northern Territories on leave are for the most part greatly run down. Anæmia is common, and physical and mental vigour are usually impaired, while depression, insomnia and loss of appetite occur.

There is no doubt about the effect of a lonely life at an out-station on the ordinary officer. The Medical Officers usually observe that the temper and the temperament of the subject suffers in an unmistakable manner.

IV.—The Harmattan wind was very marked towards the end of the year, and it would seem as if the maximum incidence of disease occurred at this season. During this time the daily range in temperature is greatly exaggerated in comparison with other seasons. Meteorological instruments protected in a screen give no correct idea of the alternation in the temperature from maximum to minimum.

Observations taken under trees in the open revealed the fact that the temperature in the cold breeze of the early morning was sometimes as low as 60 and the maximum temperature on the same day has been 96, a daily range of 36 therefore occurred. This condition must tend to produce congestion of the internal organs where officers are exposed to the morning temperature, and I do not consider it advisable or wise that officers should rise early during a marked Harmattan season.

Before concluding my remarks on the subject of the health of Europeans, I wish to state that I have recommended the Medical Officers in the Northern Territories to use a reasonable amount of latitude with regard to invaliding any officer, and to act promptly on the first sign of any serious nature, and brief consideration of fact will demonstrate the necessity for this, as an officer may be situated at a station more than one month's journey from the coast, and it therefore becomes essential that if he is to be invalided he should only be sent down before his physical condition is too far impaired, and it is needless to add that the condition of such an officer on arrival on the coast may vary within wide limits, but the fact that he may have improved greatly in health can not be any criterion of his condition when invalided.

GENERAL HEALTH, NATIVES.

This will be divided into natives born on the Coast and natives born in the Hinterland.

The former get good health but the Harmattan season proves very trying to them.

The latter enjoy very good health and live to a greater age than coast natives ; practically speaking a native of the Northern Territories gets remarkably good health in this country, and there is no disease that calls for special notice. The following diseases are comparatively of rare occurrence :—Leprosy, Syphilis, Elephantiasis ; and sleeping sickness is unknown.

HEALTH OF SOLDIERS, 2ND BATTALION GOLD COAST REGIMENT.

The health of the native troops was excellent, and comparatively small numbers appeared on each day's sick list, and of these many were so trivial in nature that the men were placed on light duty.

It is unnecessary to consider more than the general health shown by the records of the companies at Gambaga.

D.

Average Strength.	Died.	Invalided.	Average daily attendance of Sick.	Remarks.
358	3	6	15	Several cases on light duty.

I consider that this record will compare favourably with that of either Kumasi or the Coast. No doubt the health of the men may be due to their residence in their own country, and the supply of food to which they are accustomed.

NATIVE OFFICIALS.

The native officials enjoyed fairly good health. No deaths or cases of invaliding occurred. The number of entries on sick list was fairly large, but the nature of the disease was rarely serious.

E.

Average Strength.	Died.	Invalided.	Entries on Sick List.	Remarks.
15	Nil.	Nil.	34	Comprises civil and enlisted native clerks.

SANITARY.

There is little to be said on this subject as the country is in such a primitive condition, and the methods and requirements in this direction are naturally primitive.

Naturally the following conditions favour the selection of a station for European residence.

- I. Pure and abundant water supply.
- II. The presence of an elevated site for the erection of European quarters.
- III. The certainty of a supply of suitable fresh meat and other food stuffs.

Kintampo, Wa and Gambaga conform favourably to these requirements, but Salaga is in my opinion badly situated as to No. I. & II., and indifferently situated as to No. III., at the same time I have no doubt but that a really good and abundant supply of water could be obtained at Salaga, by either sinking deep wells or making artesian wells.

The following points should never be lost sight of in selecting a site for European quarters.

- I. Isolation of quarters from town by a distance of half a mile or more.
- II. The position to be to the windward as far as the prevailing breeze is concerned.
- III. The selection of a site allowing free drainage.

SANITATION OF NATIVES.

The domestic sanitation of the natives in the Hinterland compares very favourably with that of the Coast natives. The towns under European occupation are generally clean and well ordered, and the natives are very amenable in this direction.

The condition of Salaga is unsatisfactory, owing to the straggling nature of the town, and the large number of caravans that pass through this town ; however, much is being done to improve things there.

DEPARTMENTAL.

On assuming duty, I found that a variety of circumstances had combined to produce a condition of chaos here departmentally, but this only extended to records, supply of drugs, and such questions, matters which I consider to have been placed on a proper footing now. Two special service Medical Officers were appointed for the Tiansi expedition. The Medical Officer at Wa, Dr. Haggart, died during the year.

The end of the year found the Medical Officers at Salaga and Wa performing the duties of administering the respective districts, a heavy and responsible duty being thus added to their own professional work.

(Signed) P. J. GARLAND,
Senior Medical Officer.

APPENDIX VI.

SANITARY REPORT OF THE TOWN OF ACCRA FOR THE YEAR 1902.

1. During the past year the supervision of the Sanitation has been under Dr. M. Stuart Deacon and myself, there have been no important changes, the district as a whole has been clean for a native town.

2.—SANITARY INSPECTORS.

Mr. F. C. Lokko, the Chief Sanitary Inspector, has kept constant supervision over the Sub-Inspectors and Scavengers, and assisted in regulating the buildings in the town.

Assistant Inspectors :—

James Town	...	...	...	...	...	1
Ussher Town (No. 1)	...	...	...	...	...	1
" " (No. 2)	...	...	...	...	...	1
Victoriaborg	...	...	...	...	...	1
Christiansborg	...	...	...	...	...	1

There is great difficulty in obtaining suitable Assistant Inspectors, the salary is small and the class of men are unreliable, at present there are two vacancies. The Town Council is appointing two more assistant Inspectors and abolishing the Kroomen who have been in charge of scavenging gangs.

3.—SCAVENGERS.

There has been an average of 64 employed during year. These are not a good type of labourers and required constant supervision, they are under no contract and can leave without notice, and it is impossible to replace them from this town. I have asked the Town Council to try and obtain labour from the Kroo-Coast on contract ; it is very difficult to impress on the scavengers the necessity for removing old tins, bottles, etc., from the streets.

4.—LATRINES (PUBLIC.)

James Town	...	...	...	...	...	13 and one useless.
Ussher Town	...	...	...	...	...	18
Victoriaborg	...	...	...	...	...	2
Christiansborg	...	...	...	...	...	7

These are pit, beach, and pan latrines, and an average of 20 latrine emptiers and 10 latrine diggers have been employed during the year, it is very difficult to induce the natives to use pan latrines. The majority of the sewage is emptied into trenches dug in the nearest vacant grounds to latrines, but near the sea it is emptied into it.

5.—DUST BINS.

Ussher Town	...	...	...	...	...	22
James Town...	...	...	...	...	...	11
Christiansborg	...	...	...	...	...	11

In the European quarters holes are dug in the ground behind the houses for the refuse to be deposited in, and filled when the Sanitary Inspector is informed or sees that they require it, and a new one dug. The dust bins in the town are too small, and the openings are very inconvenient for emptying them, much of the scavengers' time being wasted in removing the refuse from these ; I should advise the entire front and lid of them being made moveable, and when others require to be purchased they should be much larger ones.

6.—MARKET.

The market has been kept in fair condition during the year, the quality of the meat is good, and fish, fruits, etc., in fair quantities.

The slaughter-house was repaired and whitewashed in September, and the drains, etc., renewed.

7.—WATER.

The water supply has been deficient during the latter half of the year, very little rain falling in the town after July ; but there was heavy rain previously, and the lagoon behind Accra was so much flooded, and the health of the Europeans was so bad that I asked the President of the Town Council to have it opened to drain the ground behind the town, and with the approval of the Acting Governor and the Principal Medical Officer it was opened in September. Since then the European residents have enjoyed better health. I should advise it being open in the early part of the rainy season, so as to prevent the back lands from being flooded. The native chiefs object to this, because they obtain a ferry toll by putting canoes on the lagoon when it is very full.

8.—RUINED BUILDINGS, ETC.

His Excellency the Governor has allowed 20 prisoners to be employed during the last two years in clearing away ruined houses, levelling the ground, and filling the holes. The principal part of Ussher Town is completed, and some of James Town, and there is much improvement in the condition of the huts and the lanes between them. There has been some difficulty in making the natives of James Town understand that clearing away ruins, etc., is to their benefit. His Excellency the Governor, and the Acting Governor have visited the town on Wednesdays and granted permits to build in stones and bricks with corrugated iron roofs, which has both improved the class of building and regulated the streets. The open spaces have been cleaned and in some cases levelled during the year, and when possible the holes have been used as receptacles for the rubbish taken from the dust bins.

9.—INFECTIOUS DISEASES.

There has been very little small-pox in Accra during 1902. The majority of cases being brought from the Akim road and that district, and I think with efficient vaccination and the opening of the slums it has greatly decreased.

REMARKS.

There is a great want of more concrete drains in the town, as when there are heavy rains the present ones are not sufficient to carry off the surface water and pools remain.

There are still a large number of diseased dogs, and it is very difficult and dangerous to catch and kill them. There are several very insanitary water holes in the district, viz. :—two in Christiansborg, and many in the low lying country behind Victoriaborg and Ussher Town.

(Signed) G. J. RUTHERFORD,

Health Officer.